

Atty Dkt. No. 065640-0210

Application No. 10/632,805

Listing of the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Currently Amended) A separation cartridge comprising:
a baffle filter; and
a packed bed of porous inorganic particles positioned adjacent to the baffle filter, the particles including at least one of an oxide ceramic material or a metal;
wherein the baffle filter and the packed bed are coupled together in the cartridge; and
wherein the cartridge is used to separate one or more entrained oleo substances from a gas stream in a kitchen hood system.
- 2-3. (Canceled)
4. (Previously Presented) The separation cartridge of claim 1 wherein the packed bed is pleated.
5. (Canceled)
6. (Previously Presented) The separation cartridge of claim 1 wherein the particles include particles that are approximately 0.25 millimeters to approximately 4 millimeters in size.
7. (Previously Presented) The separation cartridge of claim 1 wherein the particles are a plurality of sizes.
8. (Canceled)
9. (Previously Presented) The separation cartridge of claim 1 wherein the particles comprise an exterior surface and a plurality of channels that open onto the exterior surface and define internal surfaces.
10. (Previously Presented) The separation cartridge of claim 9 wherein the channels have a mean size of approximately 0.01 microns to approximately 100 microns.

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11. (Previously Presented) The separation cartridge of claim 9 wherein the particles are approximately 15% porous to approximately 70% porous.

12-15. (Canceled)

16. (Previously Presented) The separation cartridge of claim 1 wherein the baffle filter is in contact with the packed bed.

17. (Previously Presented) The separation cartridge of claim 1 wherein the cartridge is approximately 2.5 centimeters to approximately 6.4 centimeters wide.

18. (Previously Presented) The separation cartridge of claim 1 wherein the cartridge is approximately 3.8 centimeters to approximately 4.8 centimeters wide.

19. (Previously Presented) The separation cartridge of claim 1 wherein the kitchen hood system is used to vent the gas stream into the atmosphere.

20. (Previously Presented) The separation cartridge of claim 1 comprising a frame which is used to hold the baffle filter and the packed bed together.

21. (Previously Presented) The separation cartridge of claim 20 wherein one or both of the baffle filter or the packed bed is configured to be easily removed from the frame.

22. (Previously Presented) The separation cartridge of claim 20 wherein the baffle filter, the packed bed, and the frame are fixedly coupled together.

23. (Previously Presented) The separation cartridge of claim 20 wherein the frame encloses the baffle filter and the packed bed.

24. (Previously Presented) The separation cartridge of claim 1 wherein the baffle filter is configured to be received by upper and lower railings in the kitchen hood system and the packed bed is configured to protrude outward from a plane defined by the upper and lower railings.

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25. (Previously Presented) The separation cartridge of claim 24 wherein the cartridge is approximately 6.35 centimeters to approximately 19 centimeters wide.

26. (Previously Presented) The separation cartridge of claim 1 wherein a height of a first portion of a side of the cartridge is greater than a height of a second portion of the side of the cartridge, the first portion of the side corresponds to a portion of the cartridge that comprises the baffle filter and the second portion of the side corresponds to a portion of the cartridge that comprises the packed bed, the first portion of the side being configured to be received by upper and lower railings of a hood.

27-43. (Canceled)

44. (Currently Amended) A separation cartridge comprising:
a plurality of physically separate filters each of which includes a separation medium, wherein the plurality of filters are coupled together to form the separation cartridge, wherein at least one of the filters includes a packed bed of particles, the particles including at least one of an oxide ceramic material or a metal, and wherein the separation cartridge is used to separate an entrained oleo substance from a gas stream in a kitchen hood system.

45. (Previously Presented) The separation cartridge of claim 44 wherein the cartridge includes only two filters.

46. (Previously Presented) The separation cartridge of claim 44 wherein at least one of the plurality of filters includes a baffle filter.

47-48. (Canceled)

49. (Previously Presented) The separation cartridge of claim 44 wherein the kitchen hood system is used to vent the gas stream into the atmosphere.

50-77. (Canceled)

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78. (Currently Amended) A separation system comprising:
a kitchen hood including a first railing and a second railing, the first railing being positioned opposite the second railing; and
a cartridge comprising a plurality of separation mediums including a bed of particles, the particles being held by a rigid enclosure which is independent of at least one of the remainder of the plurality of separation mediums, the plurality of separation mediums being used to separate one or more entrained oleo substances from the air;
wherein the first railing and the second railing are used to hold the plurality of separation mediums.

79. (Canceled)

80. (Previously Presented) The separation system of claim 78 wherein the plurality of separation mediums include a baffle filter.

81-91. (Canceled)

92. (Currently Amended) A separation cartridge comprising:
a first means for separating an entrained oleo substance from a gas stream in a kitchen hood using a baffle filter;
a second means for separating an entrained oleo substance from a gas stream in a kitchen hood using a packed bed of particles, the particles being enclosed in a rigid enclosure which is separate from the baffle filter of the first means; and
a frame used to hold the first and second means together to form the cartridge;
wherein the cartridge is removable from the kitchen hood.

93. (Previously Presented) The separation cartridge of claim 44 wherein the plurality of filters includes a mesh filter.

94. (Canceled)

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95. (Previously Presented) The separation cartridge of claim 46 wherein the baffle filter is in contact with the packed bed.
96. (Previously Presented) The separation system of claim 78 comprising ductwork coupled to the kitchen hood, wherein a catalytic converter is positioned in the ductwork.
97. (Previously Presented) The separation system of claim 80 wherein the baffle filter is in contact with the bed of particles.
98. (Canceled)
99. (Currently Amended) A separation cartridge comprising:
a baffle filter; and
a second filter having a rigid enclosure that encloses a plurality of particles to form a bed of particles, the second filter being independent of the baffle filter and coupled together with the baffle filter to form the separation cartridge;
wherein the cartridge is used to separate one or more entrained oleo substances from a gas stream in a kitchen hood system.
100. (Previously Presented) The separation cartridge of claim 99 wherein the particles comprise at least one of a ceramic material or a metal.
101. (Previously Presented) The separation cartridge of claim 99 wherein the bed of particles is pleated.
102. (Previously Presented) The separation cartridge of claim 99 wherein the particles include porous inorganic particles.
103. (Previously Presented) The separation cartridge of claim 99 wherein the particles are solid.

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104. (Previously Presented) The separation cartridge of claim 99 wherein the baffle filter is in contact with the bed of particles.

105. (Previously Presented) The separation cartridge of claim 99 wherein the cartridge is approximately 2.5 centimeters to approximately 6.4 centimeters wide.

106. (Previously Presented) The separation cartridge of claim 99 wherein the kitchen hood system is used to vent the gas stream into the atmosphere.

107. (Previously Presented) The separation cartridge of claim 99 wherein the bed of particles is at least substantially flat.

108. (Previously Presented) The separation cartridge of claim 99 wherein the particles absorb the oleo substance.

109. (Previously Presented) The separation cartridge of claim 99 wherein the cartridge is configured to be mounted between opposing U-shaped railings in the kitchen hood which are approximately 1.3 centimeters to approximately 7.6 centimeters wide.

110. (Previously Presented) The separation cartridge of claim 99 wherein the particles include particles that are approximately 0.25 millimeters to approximately 4 millimeters in size.

111. (Previously Presented) The separation cartridge of claim 1 wherein the packed bed is at least substantially flat.

112. (Previously Presented) The separation cartridge of claim 44 wherein the packed bed is at least substantially flat.

113. (Previously Presented) The separation cartridge of claim 44 wherein the packed bed is pleated.

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114. (Currently Amended) The separation cartridge of claim 44 wherein the particles ~~comprise at least one of a ceramic material or a metal~~ are maintained in a rigid enclosure which is separate from at least one of the remainder of the plurality of filters in the separation cartridge.

115. (Previously Presented) The separation cartridge of claim 44 wherein the particles absorb the oleo substance.

116. (Previously Presented) The separation cartridge of claim 44 wherein the cartridge is configured to be mounted between opposing, U-shaped railings in the kitchen hood which are each approximately 1.3 centimeters to approximately 7.6 centimeters wide.

117. (Previously Presented) The separation cartridge of claim 44 wherein at least one of the plurality of filters is configured to be easily removed from the cartridge.

118. (Previously Presented) The separation cartridge of claim 44 wherein the plurality of filters includes a plurality of perforated plates which are spaced apart from each other.

119. (Previously Presented) The separation cartridge of claim 44 wherein the particles include porous inorganic particles.

120. (Previously Presented) The separation cartridge of claim 44 wherein the particles include particles that are approximately 0.25 millimeters to approximately 4 millimeters in size.

121. (Previously Presented) The separation system of claim 78 wherein the first railing and the second railing are each substantially U-shaped and approximately 1.3 centimeters to approximately 7.6 centimeters wide.

122. (Previously Presented) The separation system of claim 78 wherein the first railing and the second railing are each substantially U-shaped and approximately 3.5 centimeters to approximately 5.1 centimeters wide.

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123. (Previously Presented) The separation system of claim 78 wherein the first railing and the second railing have a substantially U-shaped cross section.

124. (Previously Presented) The separation system of claim 78 wherein the bed of particles is at least substantially flat.

125. (Previously Presented) The separation system of claim 78 wherein the bed of particles is pleated.

126. (Previously Presented) The separation system of claim 78 wherein the particles comprise at least one of a ceramic material or a metal.

127. (Previously Presented) The separation system of claim 78 wherein the particles absorb the oleo substance.

128. (Previously Presented) The separation system of claim 78 wherein the cartridge includes a frame that is used to hold the plurality of separation mediums.

129. (Previously Presented) The separation system of claim 78 wherein the plurality of separation mediums includes a plurality of perforated plates which are spaced apart from each other.

130. (Previously Presented) The separation system of claim 78 wherein the particles include porous inorganic particles.

131. (Previously Presented) The separation system of claim 78 wherein the particles include particles that are approximately 0.25 millimeters to approximately 4 millimeters in size.

132. (Currently Amended) A system comprising:
a kitchen hood; and
a cartridge that includes at least two filters, the filters comprising a first filter including a bed of particles and at least one or more additional filters filter, the first filter including a rigid

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enclosure that holds the particles in the bed of particles and is independent of the at least one additional filter;

wherein the cartridge is positioned in the kitchen hood to separate an oleo substance from a gas stream which passes through the kitchen hood.

133. (Previously Presented) The system of claim 132 wherein the bed of particles is removable from the cartridge.

134. (Currently Amended) The system of claim 132 wherein the ~~one or more~~ additional filters ~~include~~ filter is a baffle filter.

135. (Previously Presented) The system of claim 132 wherein the bed of particles is at least substantially flat.

136. (Previously Presented) The system of claim 132 wherein the bed of particles is pleated.

137. (Previously Presented) The system of claim 132 wherein the particles comprise at least one of a ceramic material or a metal.

138. (Previously Presented) The system of claim 132 wherein the kitchen hood includes a first railing and a second railing positioned opposite the first railing, wherein the first railing and the second railing are substantially U-shaped, and wherein the first railing and the second railing are used to support the cartridge.

139. (Previously Presented) The system of claim 138 wherein the first and second railings are each approximately 3.5 centimeters to approximately 5.1 centimeters wide.

140. (Currently Amended) The system of claim 132 wherein the ~~one or more~~ additional filters filter and the bed of particles are in contact with each other in the cartridge.

141. (Previously Presented) The system of claim 132 wherein the particles include porous inorganic particles.

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142. (Previously Presented) The system of claim 132 wherein the particles include particles that are approximately 0.25 millimeters to approximately 4 millimeters in size.

143. (Currently Amended) A system comprising:

a kitchen hood including a railing having a substantially U-shaped cross section;

a baffle filter; and

a bed of particles which is used to separate one or more entrained oleo substances from a gas stream which passes through the kitchen hood, the particles being held in a rigid enclosure which is independent of the baffle filter;

wherein the railing is used to support the baffle filter and the bed of particles in the kitchen hood.

144. (Previously Presented) The system of claim 143 wherein the bed of particles is at least substantially flat.

145. (Previously Presented) The system of claim 143 wherein the particles comprise at least one of a ceramic material or a metal.

146. (Previously Presented) The system of claim 143 wherein the particles absorb the oleo substance.

147. (Previously Presented) The system of claim 143 wherein the baffle filter is in contact with the bed of particles.

148. (Previously Presented) The system of claim 143 wherein the kitchen hood is used to vent the gas stream into the atmosphere.

149. (Previously Presented) The system of claim 143 wherein the particles include porous inorganic particles.

150. (Previously Presented) The system of claim 143 wherein the baffle filter and the bed of particles are included in a cartridge that is supported by the railing.

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151. (Previously Presented) The system of claim 150 wherein one or both of the baffle filter and the bed of particles is configured to be easily removed from the cartridge.

152. (Previously Presented) The system of claim 143 wherein the particles include particles that are approximately 0.25 millimeters to approximately 4 millimeters in size.

153. (Previously Presented) The system of claim 143 wherein the railing is a first railing and the kitchen hood includes a second railing positioned opposite the first railing, and wherein the first railing and the second railing are used to hold the baffle filter and the bed of particles in the kitchen hood.

154. (Currently Amended) A separation cartridge comprising:
a baffle filter; and
a bed of particles, the particles being enclosed in a rigid enclosure which is independent of the baffle filter;

wherein the baffle filter and the bed of particles are coupled together to form the separation cartridge that is used to separate one or more entrained oleo substances from a gas stream in a kitchen hood; and

wherein no additional filters are positioned between the baffle filter and the bed of particles in the separation cartridge.

155. (Previously Presented) The separation cartridge of claim 154 wherein the particles comprise at least one of a ceramic material or a metal.

156. (Previously Presented) The separation cartridge of claim 154 wherein the bed of particles is pleated.

157. (Previously Presented) The separation cartridge of claim 154 wherein the particles include porous inorganic particles.

158. (Previously Presented) The separation cartridge of claim 154 wherein the particles are solid.

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159. (Previously Presented) The separation cartridge of claim 154 wherein the baffle filter is in contact with the bed of particles.

160. (Previously Presented) The separation cartridge of claim 154 wherein the cartridge is approximately 2.5 centimeters to approximately 6.4 centimeters wide.

161. (Previously Presented) The separation cartridge of claim 154 wherein the kitchen hood is used to vent the gas stream into the atmosphere.

162. (Previously Presented) The separation cartridge of claim 154 wherein the bed of particles is at least substantially flat.

163. (Previously Presented) The separation cartridge of claim 154 wherein the particles absorb the oleo substance.

164. (Previously Presented) The separation cartridge of claim 154 wherein the cartridge is configured to be mounted between opposing U-shaped railings in the kitchen hood which are approximately 1.3 centimeters to approximately 7.6 centimeters wide.

165. (Previously Presented) The separation cartridge of claim 154 wherein the particles include particles that are approximately 0.25 millimeters to approximately 4 millimeters in size.

166. (New) The separation cartridge of claim 1 wherein the particles in the packed bed of particles are maintained in a rigid enclosure which is independent of the baffle filter.

167. (New) The separation cartridge of claim 1 wherein the baffle filter includes a first side having a plurality of openings and a second side which is spaced apart from and positioned opposite the first side, and wherein the baffle filter includes baffle members configured to deflect the gas stream, the baffle members being positioned to extend outward from at least one of the first side or the second side.

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168. (New) The separation cartridge of claim 1 wherein the gas stream passes through the packed bed of particles and exits the separation cartridge without passing through any additional baffle filters.

169. (New) The separation cartridge of claim 1 wherein the particles are not combustible at 1000 °C.

170. (New) The separation cartridge of claim 1 wherein the particles comprise a transition metal oxide, zircon, silica, alumina, alumina-silica, or combinations thereof.

171. (New) The separation cartridge of claim 170 wherein the particles comprise at least one of kaolin, bentonite, montmorillonite, or combinations thereof.

172. (New) The separation cartridge of claim 44 wherein the gas stream passes through the packed bed of particles and exits the separation cartridge without passing through any additional filters.

173. (New) The separation cartridge of claim 78 wherein the air passes through the bed of particles and exits the cartridge without passing through any additional separation mediums.

174. (New) The separation cartridge of claim 99 wherein the baffle filter includes a first side having a plurality of openings and a second side which is spaced apart from and positioned opposite the first side, and wherein the baffle filter includes baffle members configured to deflect the gas stream, the baffle members being positioned to extend outward from at least one of the first side or the second side.

175. (New) The separation cartridge of claim 99 wherein the gas stream passes through the bed of particles and exits the separation cartridge without passing through any additional baffle filters.

176. (New) The separation cartridge of claim 132 wherein the gas stream passes through the bed of particles and exits the separation cartridge without passing through any additional filters.

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177. (New) The separation cartridge of claim 143 wherein the baffle filter includes a first side having a plurality of openings and a second side which is spaced apart from and positioned opposite the first side, and wherein the baffle filter includes baffle members configured to deflect the gas stream, the baffle members being positioned to extend outward from at least one of the first side or the second side.

178. (New) The separation cartridge of claim 154 wherein the baffle filter includes a first side having a plurality of openings and a second side which is spaced apart from and positioned opposite the first side, and wherein the baffle filter includes baffle members configured to deflect the gas stream, the baffle members being positioned to extend outward from at least one of the first side or the second side.

179. (New) The separation cartridge of claim 154 wherein the gas stream passes through the bed of particles and exits the separation cartridge without passing through any additional baffle filters.